

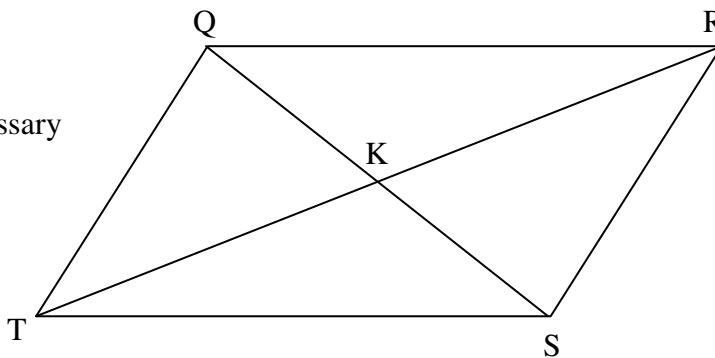
Working with Parallelograms and Rectangles

You must show work for each step of calculation – even if it is straightforward.

Use parallelogram QRST at the right, and the given information to answer each question. Draw a new sketch of the parallelogram, with all the information needed labeled on the diagram for each question.

1. If $QR = 8x + 13$ and $TS = 11x + 4$:

- a. Draw a figure with only necessary info included.



- b. How do we describe the relationship between QR and TS?
- c. Given this relationship, what is true about the measures of QR and TS?
- d. Write an equation relating the measures of QR and TS.
- e. Solve for y .
- f. Find the measure of QR.
- g. Find the measure of TS.

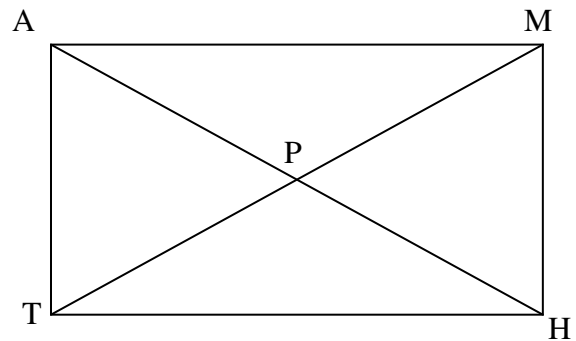
3. If $m\angle QRS = 3x + 20$ and $m\angle RST = 5x - 8$:
- Draw a figure with only necessary info included.
 - How do we describe the relationship between $\angle QRS$ and $\angle RST$?
 - Given this relationship, what is true about the measures of $\angle QRS$ and $\angle RST$?
 - Write an equation relating the measures of $\angle QRS$ and $\angle RST$.
 - Solve for x .
 - Find the measure of $\angle QRS$.
 - Find the measure of $\angle RST$.

4. If $m\angle QKT = 60$ and $m\angle TKS = 3b + 60$:
- Draw a figure with only necessary info included.
 - How do we describe the relationship between $\angle QKT$ and $\angle TKS$?
 - Given this relationship, what is true about the measures of $\angle QKT$ and $\angle TKS$?
 - Write an equation relating the measures of $\angle QKT$ and $\angle TKS$
 - Solve for b .
 - Find the measure of $\angle QKT$.
 - Find the measure of $\angle TKS$.

Use rectangle MATH at the right, and the given information to answer each question. Draw a new sketch of the parallelogram, with all the information needed labeled on the diagram for each question.

7. If $AM = 4x - 10$ and $TH = 2x + 20$:

a. Draw a figure with only necessary info included.



b. How do we describe the relationship between AM and TH?

c. Given this relationship, what is true about the measures of AM and TH?

d. Write an equation relating the measures of AM and TH.

e. Solve for x .

f. Find the measure of AM.

g. Find the measure of TH.

